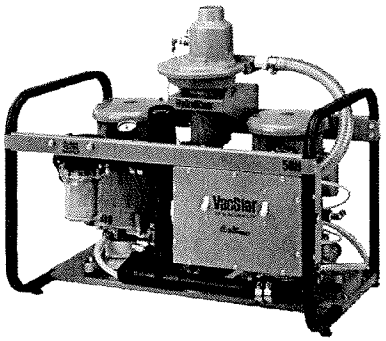
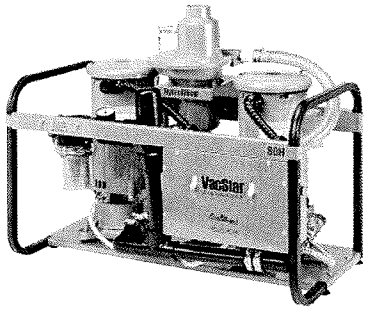
VacStar™

PRE-INSTALLATION GUIDE

VS50, VS80, VS50H & VS80H





Doctor:	_____
Address:	_____
Phone#:	_____
Dealer:	_____
Dealer Address:	_____

All installations must conform to local codes.

This VacStar Model is being installed:

- ❑ VS50
- ❑ VS80
- ❑ VS50H
- ❑ VS80H

AIR TECHNIQUES INC

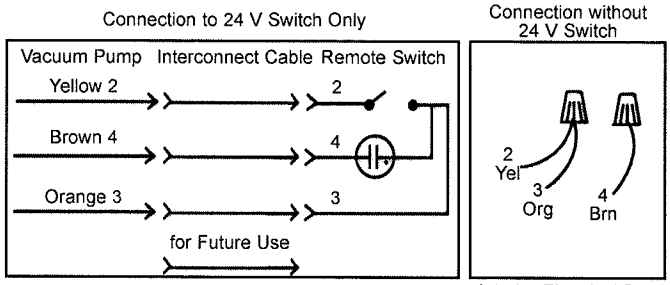
ISO 9001
ISO 13485
FDA-GMP COMPLIANT

SITE REQUIREMENTS

Electrical	VS50	VS50H	VS80	VS80H
Min. Circuit Breaker Rating	2 ea. 15A or 1 ea. 30A	2 ea. 15A or 1 ea. 30A	2 ea. 20A or 1 ea. 40A	2 ea. 20A or 1 ea. 40A
Wire Size AWG (Min. Gauge)	2 ea. 14 or 1 ea. 10	2 ea. 14 or 1 ea. 10	2 ea. 12 or 1 ea. 8	2 ea. 12 or 1 ea. 8
Buck/Boost Transformer	#67002	#67002	#67002, 2 ea.	#67002, 2 ea.
Ambient Temperature	(40 - 104°F 5 - 40°C)	40 - 104°F (5 - 40°C)	40 - 104°F (5 - 40°C)	40 - 104°F (5 - 40°C)

Important: Each pump should have a dedicated circuit panel.

24V CONNECTIONS



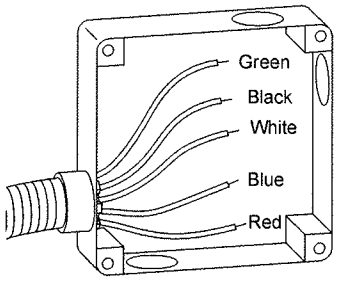
Use 18 Gauge, 4 Conductor, Interconnect Cable Between VacStar Pump and Remote Switch

Interior Electrical Box Connections

ELECTRICAL CONNECTION BOX

- If voltage falls below the minimum /205 or maximum 240 during operation, a Buck/ Boost Transformer must be installed. See Product Specifications.
- All VacStars must be wired directly from an electrical box that complies with local electrical codes to the VacStar's Electrical Connection Box. See Figure 1.

Figure 1 - Interior View



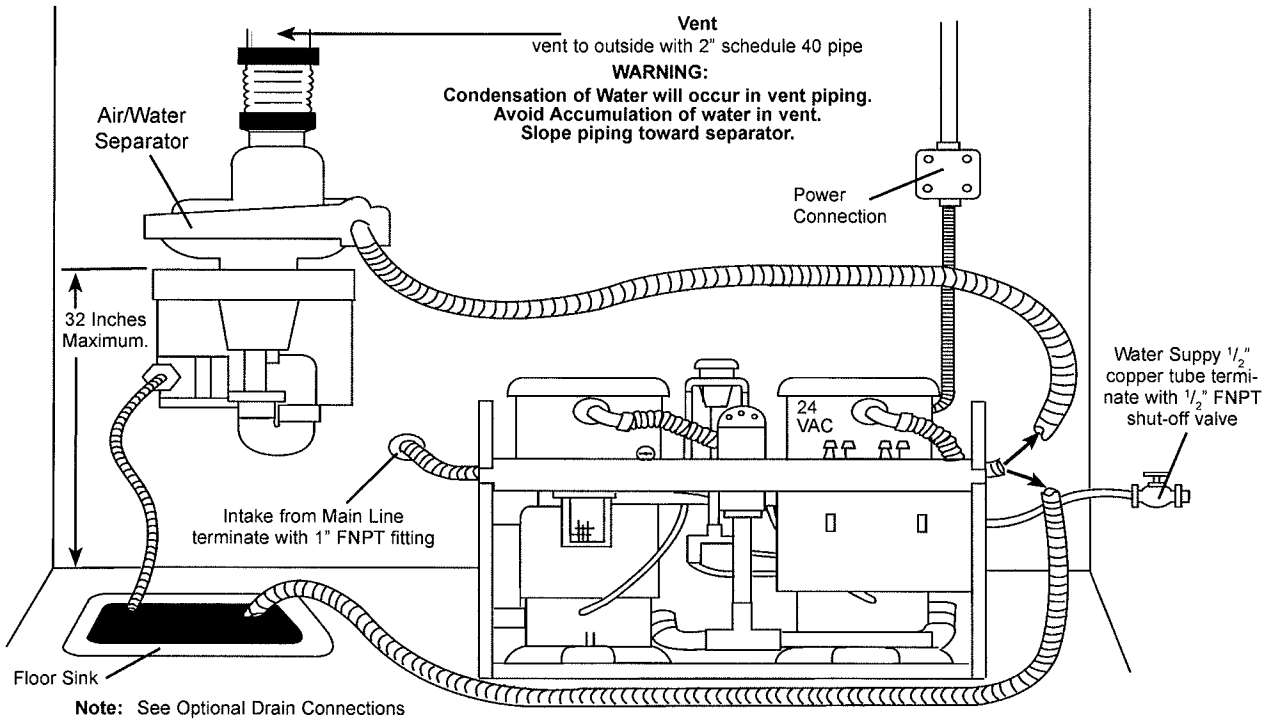
Pumps	Power Leads
Right	(L1) Black (L2) White
Left	(L1) Red (L2) Blue

PRODUCT SPECIFICATIONS

Electrical	VS50	VS50H	VS80	VS80H
Voltage Rating	230	230	230	230
Voltage Min./Max.	205/240	205/240	205/240	205/240
Full Load Amps	16	16	26.8	26.8
Water				
Inlet Water Pressure (psi)	20 - 100	20 - 100	20 - 100	20 - 100
Flow Rate Per Pump (gal/min) w/ HydroMiser	N/A	0.12	N.A.	0.18
Flow Rate Per Pump (gal/min) w/o HydroMiser	0.50	N/A	0.75	N/A
Inlet Water Temperature (°F)	40 - 75	40 - 75	40 - 75	40 - 75
Power and Heat (@ 100% duty cycle)				
Watts per Hour	1,500	1,875	2,460	3,075
BTU per Hour	5,119	6,398	8,394	10,493
Vacuum Level				
Preset at Factory (In Hg)	10	10	10	10
Physical Characteristics				
Shipping Weight in pounds	160	170	200	210
Height x Width x Depth Dimensions in inches	22 x 28 x 16	25 x 28 x 16	22 x 28 x 16	25 x 28 x 16

UTILITY ROOM WITHOUT HYDROMISER WITH OR WITHOUT AIR/WATER SEPARATOR

Typical for both VS50H and VS80H

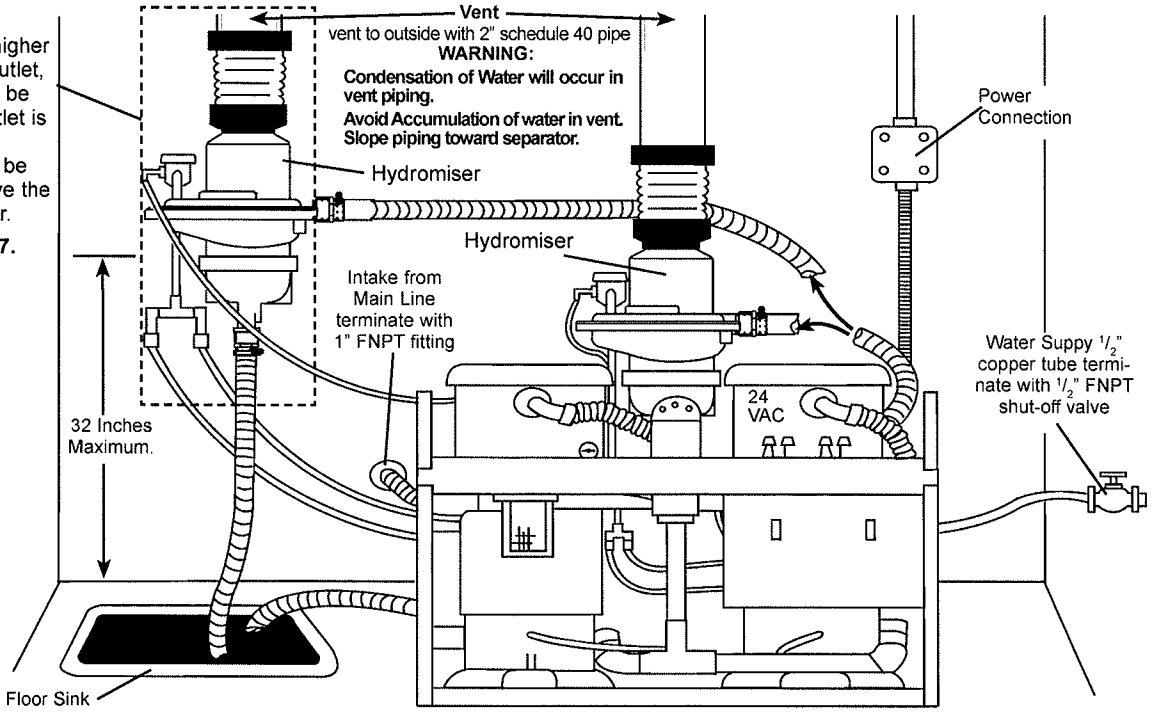

Vent
vent to outside with 2" schedule 40 pipe
WARNING:
Condensation of Water will occur in vent piping.
Avoid Accumulation of water in vent.
Slope piping toward separator.
Air/Water Separator
Power Connection
32 Inches Maximum.
24 VAC
Water Suppy 1/2" copper tube terminate with 1/2" FNPT shut-off valve
Intake from Main Line terminate with 1" FNPT fitting
Floor Sink

Note: See Optional Drain Connections

UTILITY ROOM WITH HYDROMISER

Typical for both VS50H and VS80H

If the existing drain is higher than the HydroMiser outlet, the HydroMiser must be mounted so that its outlet is above the drain.
The HydroMiser can be installed up to 32" above the base of the VacStar.
Order Kit PN 55087.

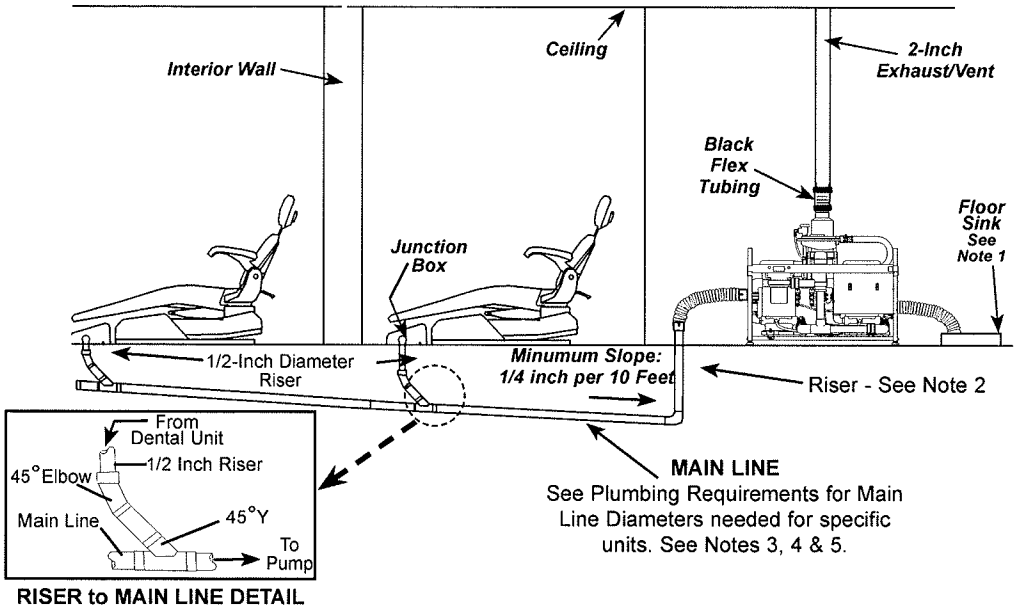

Vent
vent to outside with 2" schedule 40 pipe
WARNING:
Condensation of Water will occur in vent piping.
Avoid Accumulation of water in vent.
Slope piping toward separator.
Hydromiser
Hydromiser
Power Connection
Intake from Main Line terminate with 1" FNPT fitting
32 Inches Maximum.
24 VAC
Water Suppy 1/2" copper tube terminate with 1/2" FNPT shut-off valve
Floor Sink

Note: See Optional Drain Connections

All VacStar vacuums comply with NFPA 99C level 3 requirements

PLUMBING INSTALLATION

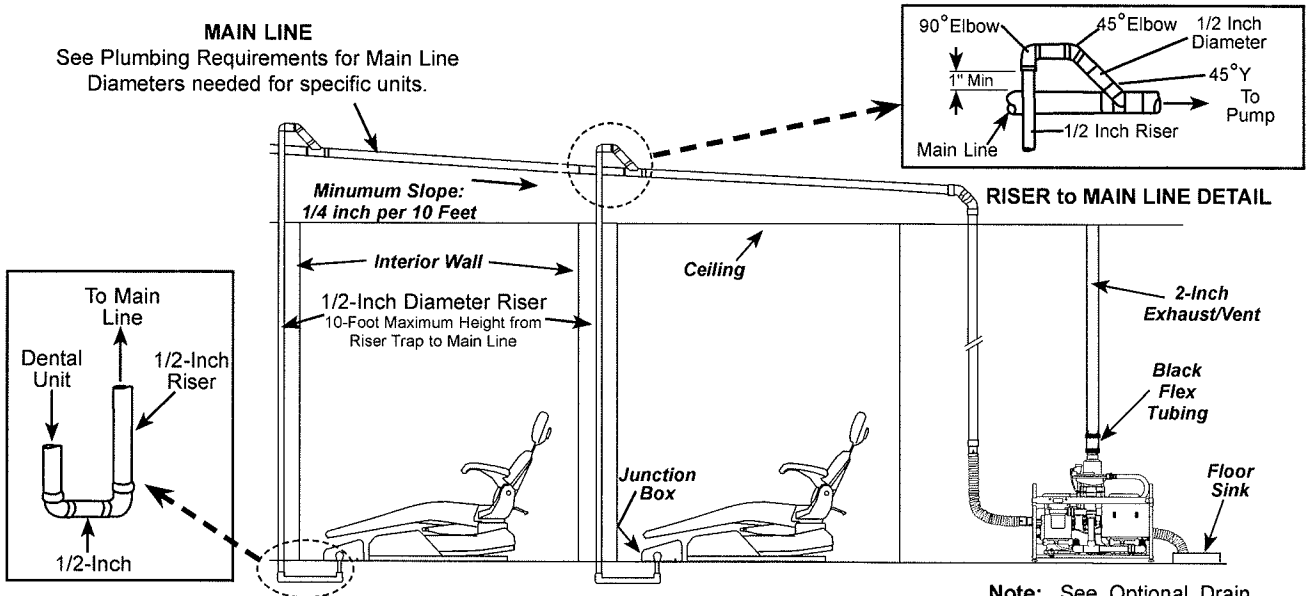
SUB FLOOR INSTALLATION - The sub-floor plumbing layout shown below is the **recommended** layout for VacStar system installations and should be used whenever possible.



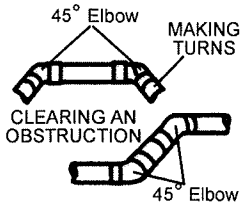
RISER to MAIN LINE DETAIL

Notes: 1. See Optional Drain Connections shown below.
2. 8-Foot Maximum Height from Main Line to pump.
3. Consult Dental Unit Manufacturer's Guidelines for correct reduced size and height of termination of vacuum line inside junction box.
4. Limit branches. Orient main line under junction box or cabinet.
5. When main line is 1-1/2" I.D. or larger, use 45° Y's and elbows only.
6. Long radius 90° elbows can be used as alternates to 45° elbows.

OVERHEAD INSTALLATION - The overhead plumbing layout shown below is the alternate layout for VacStar system installations and should be used only when unable to use the sub-floor plumbing layout.



CONNECTION DETAILS ALL INSTALLATIONS -



MAIN LINE

- DO NOT use 90° elbows except where main line terminates at vacuum pump.
- Use only 45° elbows to make turns in main line.
- If piping is diverted to clear an obstruction, DO NOT MAKE A TRAP.

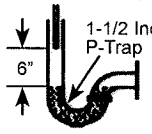
DRAIN OPTIONS

Direct connection to vented drain. No traps before vent.

CLOSED VENTED DRAIN

OR

Indirect connection (Air gap) with a p-trap.



OPEN DRAIN PIPE

All installations must conform to local codes.

PLUMBING SITE REQUIREMENTS

Plumbing	VS50 & VS50H	VS80 & VS80H
Min. CFM @ 0" Hg	32	44
Air Exhaust with Hydromiser	2" schedule 40 pipe	2" schedule 40 pipe
Overhead Plumbing		
Main Line Dia. Min./Max. ID in inches	1¼ to 1½"	1½ to 2"
End Fitting	1" FNPT	1" FNPT
Overhead Main Line	1/2" ID	1/2" ID
Floor Plumbing		
Main Line Dia. Min./Max. ID in inches	1¼ to 1½"	1¼ to 2"
End Fitting	1" FNPT	1" FNPT
Branch Line Dia. Min./Max. ID in inches	1 to 1½"	1 to 1½"

Note: Suction piping must slope at least a ¼" for each 10 feet of run towards the pump. Use PVC Schedule 40 or Copper Type M.

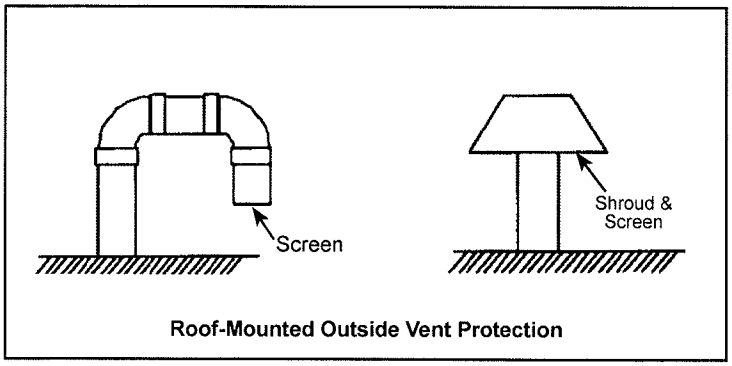
VENTILATION REQUIREMENTS

Equipment Room Temperature

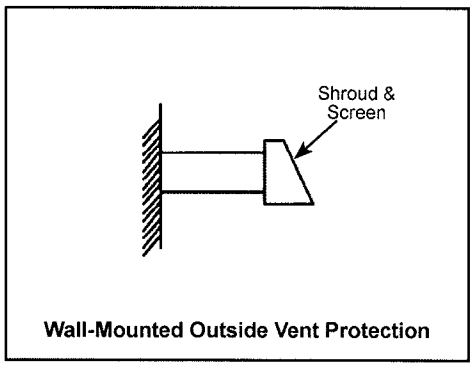
The VacStar equipment must be used in a controlled temperature environment. Maintain equipment room temperature between 40 and 105 degrees Fahrenheit. Adequate forced ventilation must be provided across the unit by placing an appropriate exhaust fan opposite an equivalent air intake vent. The fan should be higher than the associated intake vent.

Exhaust Vent Protection.

If the exhaust piping is venting to the outside of the building, precautions must be taken to protect the equipment room from weather elements and animal intrusion. This can be accomplished by using one of the three methods shown below.



Roof-Mounted Outside Vent Protection



Wall-Mounted Outside Vent Protection

Make sure to use the required pipe type for associated system

You can obtain more information about Air Techniques' products by visiting our web site at
www.airtechniques.com

Additional installation information is available on our Authorized Air Techniques Dealer web site at
http://dealers.airtechniques.com

PERFECTING YOUR PRACTICE

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